David Lattanzi, PhD

Associate Professor, Department of Civil, Environmental and Infrastructure Engineering
Co-Director, Center for Advancing Human-Machine Partnership

Education

PhD, Civil Engineering, University of Washington

Key Interests

Smart Cities | System Diagnostics | Digital Twin | Civil Engineering | Inspection Robotics | Human-Infrastructure Interaction | Data-Analytics | Computer Vision

CONTACT

Phone: 703-993-3695 | Email: dlattanz@gmu.edu
Website: cahmp.gmu.edu

SELECT PUBLICATIONS

- Mohamadi, S. and D. Lattanzi. Life-cycle modeling of structural defects via computational geometry and time-series forecasting. *Sensors* 19(20), 4571 (2019).
- Khaloo *et al.,* Unmanned aerial vehicle inspection of the Placer River Trail Bridge through image-based 3D modelling. *Structure and Infrastructure Engineering* 14(1), 124-136 (2018).
- Khaloo *et al.,* Utilizing UAV and 3D computer vision for visual inspection of a large gravity dam. *Frontiers in Built Environment* 4, 31 (2018).
- Lattanzi, D. and G. R. Miller. 3D scene reconstruction for robotic bridge inspection. *Journal of Infrastructure Systems* 21.2, 04014041 (2015).

Research Focus

My research focus is on the intersection of civil engineering and computer science as it pertains to the integration of artificial intelligence methods into structural monitoring and assessment. I study how computer vision, robotics, and artificial intelligence can be adapted to create intelligent infrastructure systems and to improve infrastructure resilience and long-term management.

Current Projects

- Creating digital twins of ship structures
- Using UAVs to inspect highway structures
- Underwater robotic inspection of pipeline systems
- Time-series analysis of complex infrastructure monitoring data